

IN THE CLAIMS

The following claim listing replaces all prior listings and versions of the claims:

COMPLETE LISTING OF THE CLAIMS:

1. (Currently amended) A refractometer for measuring refractive index of a sample, comprising:

a prism having an interface surface for contacting said sample;

a light source ~~for radiating~~ configured to radiate light so that the light enters the prism through an entrance face of said prism and ~~strikes~~ irradiates said interface surface;
and

a ~~[[an]]~~ photoelectric sensor ~~for receiving~~ configured to receive light reflected ~~[[at]]~~ from said interface surface and ~~entered from the prism~~ through an exit face of said prism,

wherein said light source and said photoelectric sensor are attached to said entrance face and exit face of said prism, respectively.

2. (Currently amended) A refractometer according to claim 1, wherein said light source includes a flat light emitting face, said flat light emitting face being adhered to said entrance face of said prism.

3. (Currently amended) A refractometer according to claim 1, wherein said photoelectric sensor adheres to said exit face of said prism.

4. (Currently amended) A refractometer according to claim 1, further comprising:
having a slit extending in ~~the~~ a direction perpendicular to ~~the~~ a plane-of-incidence,
the slit being arranged between said light source and said entrance face of said prism.
5. (Currently amended) A refractometer, comprising:
a prism having an interface surface, the interface surface being providable
~~providing the interface~~ with a sample; and
a sample stage arranged surrounding said interface surface,
wherein said sample stage includes a non-adhesive coating.
6. (Currently amended) A refractometer according to claim 5, wherein ~~material of~~
said coating includes a material comprising a metal and particles of fluorocarbon polymer
evenly distributed ~~therein~~.
7. (Currently amended) A refractometer according to claim 6, wherein said
fluorocarbon polymer ~~[[is]]~~ includes polytetrafluoroethylene.
8. (Currently amended) A refractometer according to claim 6, wherein ~~coating~~ said
material includes 20-26 vol% fluorocarbon polymer.

9. (Currently amended) A refractometer according to claim 6, wherein ~~the~~ a diameter of said particles of the fluorocarbon polymer is approximately 0.2-0.3 μm .

10. (Currently amended) A refractometer according to claim 5, wherein said interface surface ~~has~~ comprises a coating including fluorocarbon polymer.

11. (Currently amended) A refractometer, comprising:

a frame having an opening ~~therein~~;

a prism arranged in said opening and having an interface surface, the interface surface being providable ~~that provides an interface~~ with a sample;

a light source ~~that radiates~~ configured to radiate light to said interface surface; and

a sensor ~~for receiving~~ configured to receive light reflected from said light source ~~reflected at~~ said interface surface,

wherein said frame includes a sample guide face provided at a perimeter of the opening and surrounding said interface surface,

wherein said sample guide face includes a coating, the coating comprising a material including nickel and particles of fluorocarbon polymer evenly distributed ~~therein~~,

wherein said fluorocarbon polymer ~~[[is]]~~ comprises polytetrafluoroethylene,

wherein said material of said coating includes comprises approximately 20-26 vol% fluorocarbon polymer~~[[.]]~~,

wherein a said diameter of said particles of said fluorocarbon polymer is approximately 0.2-0.3 μm , and

wherein said coating is formed using electroless plating processes.

12. (Currently amended) A refractometer, in which ~~that~~ light is radiated from a light source to an interface surface of a prism, for measuring a refractive index of a sample provided on the interface surface of the prism, on a basis of a signal output from a photoelectric sensor that detects ~~providing the interface with a sample, light reflected~~ ~~[[at]] from said interface surface is detected using a photoelectric sensor to measure refractive index of said sample on the basis of a signal output from said photoelectric sensor, the refractometer comprising:~~

a filter means arranged between said interface surface and said photoelectric sensor,

wherein said filter means ~~includes~~ comprises:

a wavelength filter ~~that~~ configured to selectively allows allow transmission of light having a wavelength within a prescribed region, including wavelengths of light of said light source; and

a polarizer configured to selectively allow transmission of linearly polarized light, wherein said filter is formed as one integrated body, laminating said wavelength filter and said polarizer to each other.

13. (Currently amended) A refractometer according to claim 12, wherein said wavelength filter ~~includes~~ comprises:

a first wavelength filter ~~that~~ configured to selectively ~~blocks~~ block light having the wavelengths ~~of which are~~ within the a region ranging from a wavelength 50 nm longer than a wavelength ~~wavelengths~~ of the light from said light source up to a maximum wavelength detectable ~~wavelengths as detected~~ by said photoelectric sensor[[,]]; and

a second wavelength filter ~~that~~ configured to selectively ~~blocks~~ block light having the wavelengths ~~of which are~~ within the a region ranging from a wavelength 30 nm shorter than a wavelength ~~wavelengths~~ of the light from said light source down to a minimum wavelength detectable ~~wavelengths as detected~~ by said photoelectric sensor.

14. (Canceled)

15. (Canceled)

16. (Currently amended) A refractometer according to claim 12, wherein said filter ~~means adheres to said prism by~~ comprises:

a first face that adheres to said prism; and

a second face that adheres to ~~and said photoelectric sensor adheres to a second face of the filter means.~~

17. (Currently amended) A refractometer according to claim 12, wherein said filter ~~means includes~~ comprises a light reducing filter.

18. (Currently amended) A refractometer, comprising:

a prism having ~~[[a]]~~ an interface surface, the interface surface being providable
~~that provides an interface~~ with a sample;

a light source ~~that radiates~~ configured to radiate light to said interface surface;

a photoelectric sensor ~~for receiving~~ configured to receive light reflected ~~[[at]]~~ from
said interface surface;

a comparator configured to compare a luminous energy ~~comparing means that~~
~~compares luminous energy~~ value measured by said photoelectric sensor when said light
source is not radiating ~~lighting~~ with a tolerance value ~~set in advance~~;

a display means for displaying configured to display an error when ~~the value for~~
said luminous energy value ~~measured when said light source is not lighting~~ is greater than
said tolerance value;

a controller ~~light source~~ configured to control means for lighting said light source
to radiate light when ~~the value for said~~ luminous energy value ~~measured when said light~~
~~source is not lighting~~ is less than said tolerance value; and

a refractive index calculator configured to calculate a ~~calculating means for~~
~~calculating~~ refractive index from a luminous energy distribution ~~[[as]]~~ measured by said
photoelectric sensor when said light source is radiating ~~in a lit condition~~.

19. (Currently amended) A refractometer according to claim 18, wherein said display
~~means displays said~~ refractive index ~~as detected by said refractive index calculating~~
~~means~~.

20. (Currently amended) A method for calculating a refractive index using a refractometer comprising a prism having an interface surface ~~that provides an interface with a sample~~, a light source that radiates light to said the interface surface and a photoelectric sensor for receiving light reflected ~~[[at]]~~ from said the interface surface, ~~this~~ the method comprising:

measuring ~~the~~ a luminous energy distribution using said the photoelectric sensor when said the light source is not ~~lighting~~, radiating;

comparing the measured luminous energy ~~measured when said light source is not lighting~~ with a tolerance value; ~~set in advance~~,

displaying an error when the ~~value for~~ measured luminous energy ~~measured when said light source is not lighting~~ is greater than said the tolerance value; ~~[[.]]~~

controlling the lighting said light source to radiate light and measuring the luminous energy distribution using said the photoelectric sensor ~~if the luminous energy measured when said light source is not lighting~~ the measured luminous energy is less than said the tolerance value; and

calculating a refractive index from a luminous energy distribution measured when said the light source is not radiating ~~in a lit condition~~.

21. (Currently amended) A refractometer for measuring a refractive index of a sample, comprising:

a prism having an interface surface ~~contacting~~ adapted to contact said sample;

a light source ~~for radiating~~ configured to radiate light from an entrance face of said prism ~~towards~~ to said interface surface; and

~~an~~ a photoelectric sensor ~~for receiving~~ configured to receive light reflected ~~[[at]]~~ from said interface surface and directed outward from an exit face of said prism; and

a slit extending in a direction perpendicular to a plane-of-incidence of said interface surface, the slit being arranged between said light source and said entrance face of said prism,

wherein only said prism and said slit are ~~[[is]]~~ provided ~~as an optical element on~~ the in an optical path between said light source and said photoelectric sensor.